

UNIVERSITY
OF
CALIFORNIA

University of California
Centers of Excellence

ANNUAL REPORT FY 19/20

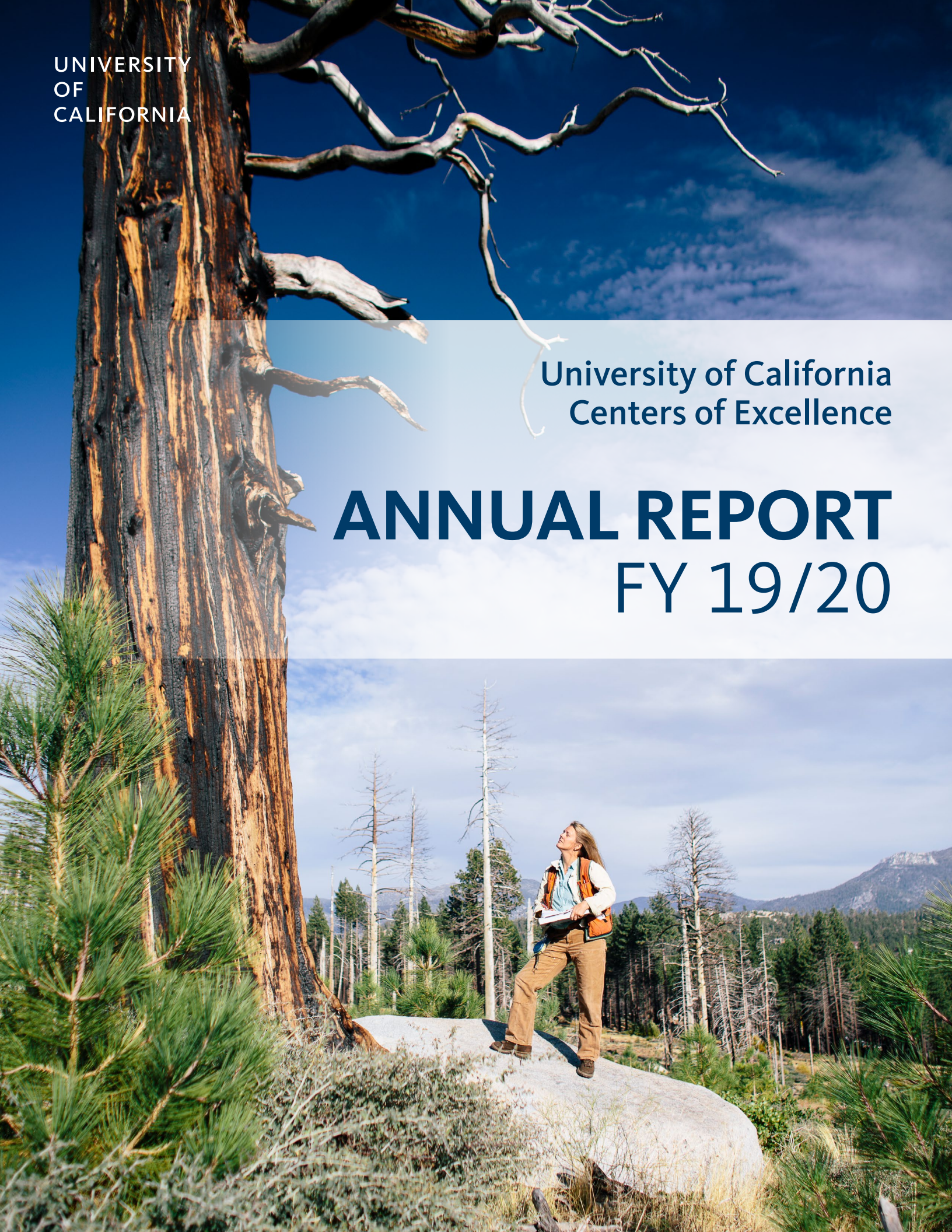


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OVERVIEW

CoE	Lead	Host Location	Sponsoring Program	Established	Status
BSL-3 Biosafety Training Program	Gary Landucci	UCI	EH&S	2/1/15	<i>Current</i>
Center for Laboratory Safety	Imke Schroeder	UCLA	EH&S	2/1/15	<i>Current</i>
Field Research Safety	Sara Souza	UCB	EH&S	7/1/16	<i>Current</i>
Radiation Safety	Carolyn MacKenzie	UCB	EH&S	12/1/17	<i>Ended 12/31/2019</i>
Radiation Safety	Cathleen Edmunds	UCSF	EH&S	1/1/20	<i>Current</i>
Readiness	Amina Assefa	UCB	Risk Management - General Liability	3/1/18	<i>Ended 10/11/2020</i>
Risk & Safety Training	Janette Ducut	UCR	EH&S	4/15/15	<i>Current</i>
Safe Patient Handling & Mobility	Rebecca Hariri	UCSF Health	EH&S - Health System	7/1/16	<i>Ended 6/30/2018</i>
Unmanned Aircraft System Safety (UAS)	Brandon Stark	UCM	Risk Management - General Liability	3/1/16	<i>Current</i>
WorkStrong	Alison Frink	UCLA	Workers' Compensation	4/1/16	<i>Current</i>

Shared Services	Lead	Host Location	Sponsoring Program	Established	Status
Dive and Boat Safety Consortium	Jim Hayward	UCSB	EH&S	7/1/19	<i>Current</i>

The Centers of Excellence (CoEs) are funded by the Office of Risk Services while Shared Service programs are funded by participating locations.

ENVIRONMENTAL HEALTH & SAFETY (EH&S)

CENTERS OF EXCELLENCE

BSL-3 Biosafety Training Program

Center for Laboratory Safety

Field Research Safety

Radiation Safety

Risk & Safety Training

SHARED SERVICES

Dive and Boat Safety Consortium

BSL-3 BIOSAFETY TRAINING PROGRAM

The BSL-3 Biosafety Training CoE develops and delivers high-containment laboratory safety training for personnel groups, including laboratory staff, biosafety professionals, first responders and operations & maintenance personnel. The CoE is integral in supporting the systemwide High-Containment Laboratory Oversight Committee by conducting BSL-3 lab evaluations, plan reviews and on-site training.

- Provided biosafety and biosecurity in-person training at UC Irvine’s BSL-3 National Training Center and on site at UC Davis
- Held operations, maintenance and BSL-3 laboratory validation training for facilities management and biosafety teams for six UC participants from UC Berkeley, UC Merced, UC Davis and UCLA
- Conducted facility site testing at the UC San Francisco Gladstone Laboratory
- Provided technical consultation and subject matter expertise to the UC High-Containment Laboratory Directors

Metrics

- UC campus participants trained at UC Irvine’s BSL-3 National Training Center (48 participants):
 - UC Berkeley
 - UC Davis
 - UC Irvine
 - UCLA
 - UC Merced
 - UC Riverside
 - UC San Diego
- 174 individuals trained in 2019-2020
 - 88 UC personnel
 - 86 external individuals



BSL-3 Trainings Conducted

Participating Entity	O&M I + ANSI 29.14	Researcher	First Responders
UC Schools	6	48	34
Public Health	2	0	0
Other Academic Universities	5	21	0
Government/Military Organizations	10	10	18
Corporate	10	10	0

CENTER FOR LABORATORY SAFETY

The Center for Laboratory Safety CoE sponsors and supports research on laboratory safety practices with the goal of identifying, developing and applying best practices in laboratories. The Center for Laboratory Safety (UCCLS) is a founding member of the national Safety Training Consortium (STC), which focuses on developing impactful online training courses for academic institutions and researchers.

- Coordinated with UC Risk & Safety Training CoE and the STEW to support delivery of training courses and resources across the UC system
- Participated in monthly UC Lab Safety Workgroup and Safety Training & Education Workgroup meetings to share best practices and communicate UCCLS best practices and resources
- Collaborated with the Risk & Safety Training CoE on the development of safety courses:
 - Course released to UC campuses: Fundamentals of Radiation Safety, December 2019
 - Courses in development:
 - Waste Anesthetic Gas (WAG) Safety (for release in October 2020)
 - Aerosol Transmissible Disease (ATD) Safety (for release in November 2020)
 - Fundamentals of Biosafety (for release in February 2021)
 - Pressure Vessel Safety (for release in February 2021)
 - Formaldehyde Safety (for release in March 2021)
 - Fundamentals of Laboratory Safety version 2 (for release in 2021)
 - Risk Management for Researchers (for release in 2021)
- Provided 16 presentations for universities, companies and national conferences
- Published four papers:
 - E. Czornyj, I. Schröder, N. L. Wayne, C. A. Merlic “Lessons Learned – Vacuum Pump Fire” J. Chem. Health Safety 2019, 26, 6, 2. <https://www.sciencedirect.com/science/article/pii/S1871553219300404>
 - G. S. Svenningsen, B. R. Williams, M. B. Blayney, E. Czornyj, I. Schröder, and C. A. Merlic “Lessons Learned – Fluoride Exposure” ACS Chem. Health Safety 2020, 27, 1, 40–42. <https://pubs.acs.org/doi/10.1021/acs.chas.9b00015>
 - E. Czornyj, I. Schröder, N. L. Wayne, M. Blayney, C. A. Merlic “Proceedings of the 2018 Laboratory Safety Workshop” ACS Chem. Health 2020, 27, 2, 96-104. <https://pubs.acs.org/doi/10.1021/acs.chas.0c00012>
 - Schröder “COVID-19: A Risk Assessment Perspective” ACS Chem. Health 2020, 27, 3, 160–169. <https://pubs.acs.org/doi/10.1021/acs.chas.0c00035> (top viewed in 2020)

Metrics

UCCLS Website Page View Summary





FIELD RESEARCH SAFETY

The Field Research Safety CoE facilitates the sharing of lessons learned and best practices in field work, while promoting risk management through the development of safety planning tools and resources.

- Developed and delivered training to numerous stakeholders both within the UC and beyond:
 - UC Natural Reserve System (NRS) Managers Annual Meeting
 - CDC Biosafety Symposium Professional Course: Field Research Safety for Biosafety Professionals
 - National Outdoor Leadership School Risk Management Training (2 day)
- During the challenging time of pandemic shutdown, coordinated with the Risk & Safety Training CoE to conduct a Fieldwork Toolkit Webinar Series (<https://training.ucr.edu/fieldwork>) covering the following topics:
 - Creating a Positive Safe Learning Environment in Field Settings
 - Risk Assessment for Outdoor Fieldwork
 - Preventing Sexual Harassment & Assault in the Field Sciences
 - Overview of UC Travel & Auto Insurance
- Supported wilderness first aid training for 122 researchers and students at UC Berkeley, UC Davis and UC Merced
- Managed Garmin inReach satellite device program for UC Reserve Managers
- Expanded monthly newsletter subscribers to include all UC NRS Reserve Managers, Department Safety Coordinators and Field Program Coordinators
- Coordinated installation of 35 PM2.5 particulate sensors systemwide to support wildfire smoke monitoring

Metrics

- Newsletter open rate 60-70%
 - 1000+ readers per month



122

Researchers and students at UC Berkeley, UC Davis and UC Merced that were supported in wilderness first aid training

Webinar Series



384

Participants



48

Locations/
Universities
Represented



35
PM2.5

Particulate sensors installed systemwide to support wildfire smoke monitoring



95%

Positive Reaction

RADIATION SAFETY

The Radiation Safety CoE provides expert guidance on radiation safety concerns within the University of California system. The CoE is supporting development of the UC Radiation software application and is managing the UC Cesium Irradiator Replacement Program (CIRP).

- Laboratories to complete Cesium removals and X-Irradiator installations
 - 9 cesium irradiators were removed without incident
 - 10 X-Ray Irradiator installations completed
- Partnered with location Radiation Safety Officers (RSOs) and Department of Energy and Sandia National
- and updated checklists to support the safe removal of Cs / Co irradiators and installation of X-ray irradiator replacement equipment including:
 - Cesium Removals - The updated checklist incorporated lessons learned from a recent irradiator removal at the University of Washington
 - X-Ray Irradiator Installations
 - X-Ray Irradiator Annual Use Reviews
 - Task Lists

Metrics

Projects	30 June 2019	30 June 2020
Cesium Irradiator Removals Completed	9	18
Pending Removals	14	8
Planned Removals	17	14
TOTAL CESIUM REMOVALS	40	40

Projects	30 June 2019	30 June 2020
X-Ray Installations Completed	9	19
X-Ray Installations Pending	15	7
X-Ray Planned Purchases	1	1
TOTAL X-RAY INSTALLATIONS	25	27

Projects	30 June 2019	30 June 2020
CESIUM AND COBALT RETAINED	7	7

RISK & SAFETY TRAINING

The Risk & Safety Training CoE develops, distributes and analyzes systemwide training on environmental health and safety topics and risk-related initiatives. The CoE produces training in a variety of blended formats, including online (eLearning), instructor-led, tutorials (video), and webinars.

- Managed course catalog of 143 courses
 - Addressed 155 requests for accessibility; triaging issues not covered by course design, including course transcripts and assistance with training completions
- Produced approximately 60 resources, including systemwide training courses and materials, presentations, conferences and webinars
- Completed five major training initiatives:
 - Covid-19 Prevention training (eLearning): Overview of Coronavirus prevention, including what to expect and responsibilities with returning onsite
 - Hazardous Drugs (USP800 awareness) (eLearning): Overview of USP800 for healthcare staff. Topics include: policies and procedures, controls, responses, waste disposal and spill response, and site-specific information
 - Respiratory Protection (N-95) (eLearning, training materials, website): Resources to assist campuses in meeting N-95 training certifications. Topics include voluntary use and limitations covering 8 CCR 5144
 - Wildfire Smoke: Resources to assist campuses during wildfire smoke events. Topics include AQI when fine particulate matter (PM2.5) is 151 or greater covering 8 CCR 5141.1 [training materials, website]
 - Workstrong: Introductory video promoting the UC program that improves recovery for employees with multiple injuries, and to prevent future recurrences
- Created a COVID-19 prevention resources website housing hundreds of trainings, documents, and guidance developed by the University of California in response to the COVID-19 pandemic. The website includes:
 - Checklists
 - Plans
 - Signage
 - Templates used during ramp-down/up.



8,649

Visits to COVID-19 resource page from March 29, 2020 to June 30, 2020

PEAK DAILY VISIT
April 16, 2020 with 703 views

Metrics

- 120,465 online trainings were completed in the LMS system
- Evaluations received: 56,663 (77% are “good” or “very good”)
- Website views: 32,676
- YouTube views: 6,834
 - Top five videos:
 - Covid-19
 - Ergonomics (Safe pushing & pulling)
 - Bloodborne Pathogens
 - Ergonomics (Dining food prep)
 - PPE (Glove removal)
- Certifications Awarded: 53 EH&S Generalist & 39 Emergency Managers Professional



120,465+

Training Completions



48

Continuing Education Units Issued

DIVE AND BOAT SAFETY CONSORTIUM

The Dive and Boat Safety Consortium, hosted and supported by UC Santa Barbara, provides support and oversight for diving and boating operations at participating campuses and systemwide resources on behalf of UCOP.

- Visited with the researchers, post-docs, graduate students and associated administrative staff at UC Berkeley, UC Irvine & UC Merced.
- Provided subject matter expertise as a team member on the US Geological Survey Serious Accident Investigation for a UC dive incident that occurred in Alaska
- Developed the UC Dive & Boat Safety Consortium Website
- Established the Consortium's Dive and Boat Safety Management System and set up current scientific divers with their personal Webdiver / Webboater account
- Formed the UC Consortium Dive Control Board and developed / approved the UC Consortium Dive Safety Manual
- Provided the required training, planning and support for researchers conducting dive operations in field locations, including:
 - Monterey
 - Smithsonian Tropical Research Institute in Panama
 - Dongsha Atoll National Park in China
- Participated in the American Academy of Underwater Sciences (AAUS), the Scientific Boating Safety Association (SBSA) and Diving Officers of California (DOCal) meetings.
- Planning and coordinating program audits for the seven Diving Safety Programs operating within the UC system
 - UC Davis
 - UC Santa Cruz
 - UC Santa Barbara
 - UCLA
 - UC San Diego
 - UC Riverside
 - Dive and Boat Safety Consortium

Metrics

- 16 divers and boaters have been approved for operations
- Conducted training for six divers, including two new Science Divers-In-Training, in Spring 2020
- Four field operations were supported before the COVID-19 Pandemic shut down research activities



16

Divers and boaters approved for operations



6

Divers trained



4

Field Operations supported

WELLNESS

CENTERS OF EXCELLENCE

WorkStrong

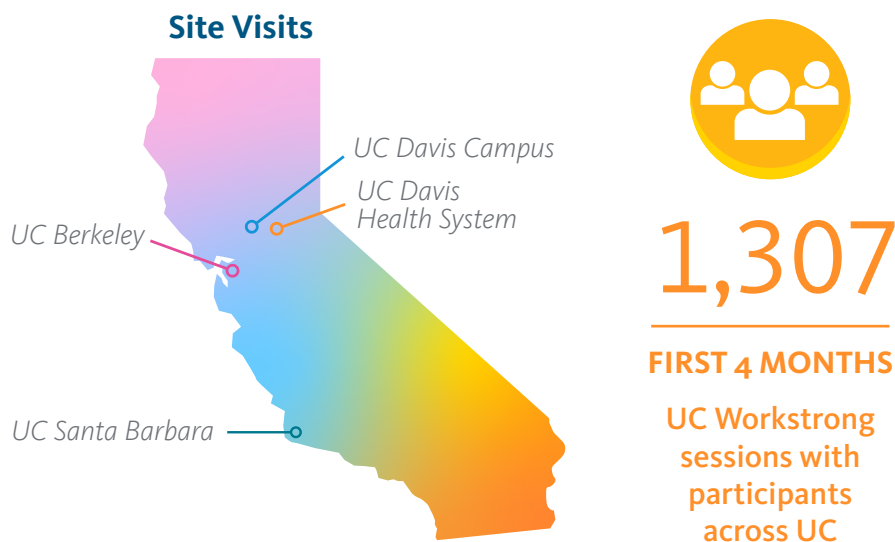
WORKSTRONG

The WorkStrong program is designed to promote recovery and prevent future workplace injuries with the expertise and collaborative support of UC staff in wellness programs, occupational health and recreational services. Participation in WorkStrong will decrease the likelihood of repeat occupational injuries and result in improved worker health, fitness, and overall well-being. The WorkStrong CoE is a shared resource for all campuses to support increased enrollment in local WorkStrong programs.

- Released WorkStrong Guidelines for physicians
 - Created, vetted, and implemented in collaboration with UC Occupational Health Medical Directors
- In response to COVID-19, WorkStrong implemented the following changes to maintain program continuity during curtailment of campus operations:
 - Increased WorkStrong Coordinator calls to twice a month
 - Shifted WorkStrong Dieticians to telephone and/or video sessions with participants
 - WorkStrong Personal Trainers implemented a 15 minute weekly check in call to help participants transition to a home-based exercise system
 - Approved Telehealth medical clearances for WorkStrong
 - Transitioned to virtual CoE site visits

Metrics

- Four site visits:
 - UC Berkeley (on site - August 2019)
 - UC Davis Health (on site - November 2019)
 - UC Davis Campus (on site - February 2020)
 - UC Santa Barbara (virtual - June 2020)
- 1,307 WorkStrong sessions with participants across UC in the first 4 months of the COVID-19 curtailment



RISK MANAGEMENT

CENTER OF EXCELLENCE

Readiness

Unmanned Aircraft System Safety

READINESS

The Readiness CoE provides support and guidance to three functional areas across the system: Mission Continuity, Emergency Action Planning and Information Technology Disaster Recovery. These three functional areas are aligned under a shared technology platform, UC Ready, which supports and guides planning efforts and programmatic improvements in each area. The CoE provides leadership and programmatic guidance to support the implementation of the UC Ready platform, as well as training and technical support.

- Collaborated with the Risk & Safety Training CoE to facilitate a mutual aid workshop as part of the 2019 annual co-meeting of the UC Emergency Management and Business Continuity Workgroups
- Coordinated with UCSF Health Emergency Management to develop an earthquake table top exercise template for use by UC Medical Centers (put on hold due to COVID-19)
- Launched key initiatives in support of the UC Ready software:
 - Lighting Interface upgrade
 - Enhancement request process
 - New features related to incident management
- Conducted an enterprise-wide peer review of the UCSF Emergency Management program in collaboration with the University of Oregon and the University of Texas, Southwestern
- Provided subject matter expertise on the following systemwide working groups:
 - Air Quality Protocol Working Group
 - Continuity Planning and Disaster Recovery Policy (IS-12) rewrite
- As part of COVID-19 pandemic response:
 - Provided systemwide emergency management coordination and support.
 - Served as co-Administrative Lead for the UC Health Coordinating Committee (UC-HCC), led by EVP Carrie Byington, MD.
 - Served as public health and emergency management subject matter expert to the UCOP Management Response Team.
 - Developed summary documents to facilitate the interpretation and applicability of federal and state guidance to higher education.

Metrics

Emergency Management and Business Continuity workshop:

- Participants: 39
- Host location: UC Riverside
- 10 campuses, 5 medical centers, ANR and UCOP participated
- Audience included: all Emergency Managers and Continuity Planners
- Topics covered:
 - Mutual aid
 - Emergency Operations Center (EOC)
 - Incident briefings, status reports, and policy group decisions for:
 - Wildfire, Earthquake, Protest
 - Influence & Negotiation
 - Communication
 - Teamwork
 - Leadership



Emergency Management Workshop

39

Participants

10

Campuses

5

Medical Centers



UNMANNED AIRCRAFT SYSTEM SAFETY (UAS)

The Unmanned Aircraft System Safety CoE provides guidance and training in support of the safe operation of Unmanned Aircraft Systems, commonly known as drones. The CoE curates the UC Drones software application that was developed in partnership with Risk and Safety Solutions to manage flight requests and the reporting of flight data. The CoE also created the Presidential Policy that provides the framework and basis for the safe use of drones within the UC system and maintains the related policy guidance document.

- Updated the Policy Guidance Document and Basic Operation Manual to a new online format
- Created new resources for use:
 - Online tutorials (Providing operating and safety guidance for new researchers)
 - Templates (Mission planning, emergency procedures and mission binder)
 - Checklists (Project/mission checklists and pre-flight crew briefings)
- Improved online presence with a new website
- Provided guidance and support for the latest rule making and implementation changes
- Implemented automated tracking of UC property type for UC UAS activity
- Collaborated with UC ANR and CSU Monterey Bay to revamp DroneCamp 2020 to be completely online
- Supported UC San Diego Health to become the 2nd hospital in the US to start a UAS medical delivery trial by reviewing flight operational plans to ensure it met UC policy and regulatory compliance requirements and completing the site audit

METRICS

- Hosted presentations and training sessions at six campuses:
 - UC Berkeley
 - UC Irvine
 - UCLA
 - UC Merced
 - UC Santa Cruz
 - UC San Diego
- Flight Hours
 - Pre-Covid-19 (July-Feb): 447 hrs, +53% from FY18-19
 - Post-Covid-19 (Mar-Jun): 56 hrs, -75% from FY18-19
- 706 UAS Missions (-45% from FY18-19)
- Average Approval Time < 12 hours
- 23 Safety Incidents (+21% from FY18-19)

#2

UC SAN DIEGO
HEALTH

Became the 2nd
hospital in the US to
start a UAS medical
delivery trial



+53%

Flight Hours
Pre-COVID-19
(From FY18-19)

-75%

Flight Hours
Post-COVID-19
(From FY18-19)



706

UAS Missions



-45%

From FY18-19